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Nebraska Summary S020: Zetor 12145

Nebraska Tractor Test Laboratory

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SUMMARY OF OECD TEST 909—NEBRASKA SUMMARY 020

ZETOR 12145 DIESEL

16 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Fuel Consumption			Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed (two hours)—(PTO speed—1153 rpm)					
102.3 (76.3)	2213	6.17 (23.35)	0.427 (0.259)	16.65 (3.28)	
Standard Power Take-off Speed (1000 rpm)					
94.7 (70.6)	1920	5.50 (20.82)	0.412 (0.251)	17.21 (3.39)	
VARYING POWER AND FUEL CONSUMPTION					
90.4 (67.4)	2304	5.48 (20.76)	0.431 (0.262)	16.50 (3.25)	Air temperature
.....	2421	1.96 (7.43)	66°F (19°C)
46.7 (34.8)	2381	3.68 (13.92)	0.560 (0.340)	12.64 (2.49)	Relative humidity
102.3 (76.3)	2213	6.17 (23.35)	0.427 (0.259)	16.65 (3.28)	27%
23.6 (17.6)	2414	2.79 (10.56)	0.840 (0.511)	8.43 (1.66)	Barometer
69.3 (51.7)	2343	4.63 (17.51)	0.474 (0.288)	14.92 (2.94)	29.68" Hg (100.2 kPa)

Maximum Torque 267.0 lb. ft (362.0 Nm) @ 1340 RPM
Maximum Torque Rise 10%

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
75% of Pull at Maximum Power—Five Hours 9th (H1) Gear									
72.2 (53.8)	5780 (25.7)	4.68 (7.53)	2325	3.8	0.519 (0.316)	13.60 (2.68)	184 (84)	61 (16)	30.14 (101.8)
MAXIMUM POWER IN SELECTED GEARS									
4th Gear (L2)									
80.5 (60.0)	13940 (62.0)	2.16 (3.48)	2276	15.0	0.513 (0.312)	13.81 (2.72)	184 (84)	54 (12)	30.25 (102.1)
5th Gear (L3M)									
84.6 (63.1)	11680 (52.0)	2.72 (4.37)	2205	9.1	0.531 (0.323)	13.30 (2.62)	180 (82)	52 (11)	30.25 (102.1)
6th Gear (H1M)									
87.5 (65.3)	10150 (45.2)	3.23 (5.20)	2208	7.0	0.513 (0.312)	13.81 (2.72)	180 (82)	52 (11)	30.27 (102.2)
7th Gear (L3)									
88.0 (65.6)	8800 (39.2)	3.75 (6.03)	2205	5.5	0.512 (0.311)	13.86 (2.73)	184 (84)	54 (12)	30.25 (102.1)
8th Gear (L4M)									
87.9 (65.5)	8150 (36.3)	4.04 (6.50)	2208	5.0	0.512 (0.311)	13.86 (2.73)	185 (85)	56 (13)	30.25 (102.1)
9th Gear (H1)									
90.5 (67.5)	7680 (34.2)	4.42 (7.11)	2207	4.7	0.502 (0.305)	14.11 (2.78)	184 (84)	56 (13)	30.25 (102.1)
10th Gear (H2M)									
88.5 (66.0)	6310 (28.1)	5.25 (8.45)	2200	3.9	0.508 (0.309)	13.91 (2.74)	184 (84)	56 (13)	30.22 (102.0)
11th Gear (L4)									
89.9 (67.1)	6190 (27.6)	5.44 (8.75)	2209	3.8	0.500 (0.304)	14.16 (2.79)	185 (85)	56 (13)	30.22 (102.0)
12th Gear (H2)									
89.6 (66.8)	4720 (21.0)	7.11 (11.44)	2210	3.1	0.502 (0.305)	14.11 (2.78)	181 (83)	56 (13)	30.22 (102.0)

Location of Test: National Institute of Agricultural Engineering, Wrest Park, Silsoe, Bedford, England MK45 4HS

Dates of Test: February to July 1984

Manufacturer: Zavody Tazkeho Strojarsstva, Narodny Podnik, Box 03657, Martin, Czechoslovakia

FUEL AND OIL: Fuel No. 2 Diesel Cetane No. NA Specific gravity converted to 60°/60°F (15°/15°C) 0.8515 Fuel weight 7.08 lbs/gal (0.849 kg/l) Oil SAE 10W30 Oil Consumption for 10 hours 0.627 lb (285 gm) Transmission lubricant PP 80 API GL-4 Front axle lubricant SAE 80 API GL-4

ENGINE: Make Zetor Diesel Type six cylinder vertical Serial No. 000 001 Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 4.3" × 4.7" (110 mm × 120 mm) Compression ratio 17 to 1 Displacement 417 cu in (6842 ml) Starting system 12 volt Lubrication pressure Air cleaner oil bath with centrifugal precleaner Oil filter full flow centrifugal Oil cooler engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil Fuel filter two paper elements and sediment bowl Muffler vertical Cooling medium temperature control thermostat.

CHASSIS: Type four wheel drive Serial No. 100 003 Tread width rear 68" (1735 mm) to 74" (1875 mm) front 67" (1700 mm) to 71" (1800 mm) Wheel base 106.3" (2700 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial (2) range operator controlled powershift Nominal travel speeds mph (km/h) first 1.21 (1.95) second 1.62 (2.61) third 1.91 (3.08) fourth 2.56 (4.12) fifth 3.04 (4.89) sixth 3.54 (5.70) seventh 4.06 (6.54) eighth 4.33 (6.96) ninth 4.73 (7.62) tenth 5.56 (8.94) eleventh 5.79 (9.31) twelfth 7.46 (12.01) thirteenth 8.86 (14.26) fourteenth 11.86 (19.08) fifteenth 12.62 (20.30) sixteenth 16.88 (27.16) reverse 1.66 (2.67), 2.22 (3.57), 2.61 (4.21), 3.50 (5.63), 4.15 (6.69), 5.56 (8.94), 5.91 (9.52), 7.91 (12.74) Clutch single dry disc operated by foot pedal Brakes multiple dry disc hydraulically operated by two foot pedals which can be locked together Steering power assist Power take-off 540 rpm at 1890 engine rpm and 1000 rpm at 1920 engine rpm Unladen tractor mass 11032 lb (5004 kg).

REPAIRS AND ADJUSTMENTS: A new oil seal was fitted at the rear of the front axle drive shaft and a broken brake release spring was replaced.

TRACTOR SOUND LEVEL WITH CAB		dB(A)
Maximum sound level—in 13th (H3M) gear		88.0
Bystander in 16th (H4) gear		90.0

CENTER OF GRAVITY

Horizontal distance forward from centerline of rear wheels	41.4" in (1052 mm)
Vertical distance above roadway	39.1" in (993 mm)
Horizontal distance from center of rear wheel tread 0" to the right/left	

TURNING ON A CONCRETE SURFACE

Turning radius—with brake applied right 179" (4.55 m) left 226" (5.75 m)	
—without brake right 252" (6.41 m) left 252" (6.40 m)	
Turning space radius—with brake applied right 187" (4.74 m) left 234" (5.94 m)	
—without brake right 260" (6.60 m) left 259" (6.59 m)	

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Two 18.4-38; 8; 13 (90)	Two 18.4-38; 8; 12 (80)
	Ballast	1958 lb (888 kg)	None
	—Cast Iron (total)	None	None
Front Tires	—No., size, ply & psi (kPa)	Two 14.9-24; 8; 14 (100)	Two 14.9-24; 8; 12 (80)
	Ballast	None	None
	—Cast Iron (total)	736 lb (334 kg)	None
Height of Drawbar		14.6 in (370 mm)	16.1 in (410 mm)
Static Weight	—Rear	8502 lb (3857 kg)	6708 lb (3043 kg)
	—Front	5222 lb (2369 kg)	4324 lb (1961 kg)
	—Total	13724 lb (6226 kg)	11032 lb (5004 kg)

THREE POINT HITCH PERFORMANCE (STATIC TEST)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range: 7240 lbs (32.2 kN)

i) Opening pressure of relief valve: 2320 psi (163 Bar)

Sustained pressure of the open relief valve: 2740 psi (193 Bar)

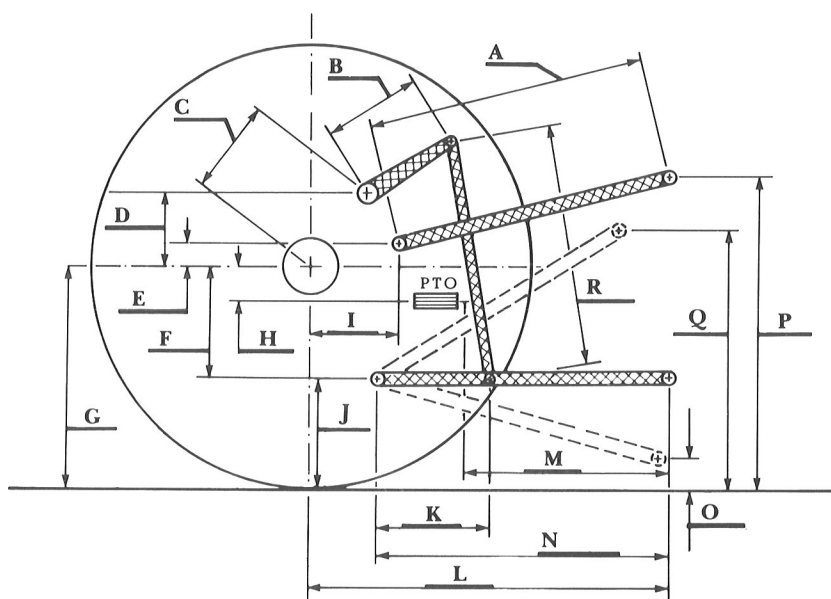
ii) Pump delivery rate at minimum pressure and rated engine speed: 12.8 GPM (48.4 l/min)

iii) Pump delivery rate at maximum hydraulic power: 10.6 GPM (40.0 l/min)

Delivery pressure: 2320 psi (163 Bar)

Power: 14.9 Hp (11.1 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD



Hitch Dimensions as Tested — No Load

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures.

The performance figures on this summary are taken from a test conducted under the OECD standard test code procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **909**, Nebraska Summary 020, May 17, 1988.

LOUIS I. LEVITICUS

Engineer-in-Charge

K. VON BARGEN

R. D. GRISSO

J. R. GILLEY

Board of Tractor Test Engineers

	inch	mm
A	26.9	683
B	13.0	330
C	13.1	333
D	11.3	286
E	8.3	210
F	10.0	255
G	32.3	820
H	6.0	153
I	15.2	385
J	22.3	565
K	19.6	498
L	42.2	1072
M	22.1	562
N	37.1	942
O	12.0	306
P	42.4	1075
Q	39.3	997
R	22.0	559